**Aminolytic Cleavage from Wang Resin.**
**A New Distributed Drug Discovery Laboratory for the Undergraduate Curriculum**

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When treated with ammonia or methylamine, unnatural amino acids bound to Wang resin (**1**) are released as their corresponding amides **2** in good yield and purity. When carried out at room temperature, aminolytic cleavage proceeds slowly with a four-day exposure to ammonia in methanol representing an optimal reaction time. Aminolytic cleavage proceeds well with unhindered primary amines, however, the hindered amine isopropylamine and benzylamines are unacceptably slow to effect cleavage. Use of the secondary amine pyrrolidine led to a complex mixture. Due to the large stoichiometric amine excess required, the scope is currently limited to unhindered, volatile, primary amines. The overall synthesis of **2** from **BPI-Gly-Wang** resin represents a new Distributed Drug Discovery Laboratory (D3-7) and was rolled out to the spring 2016 Organic II laboratory.